Part 1.

Revised Model Elementary Arithmetic

H. H. BELFIELD

THE REVISED

Model Elementary Arithmetic.

By H. H. BELFIELD, Ph.D.,
DIRECTOR OF THE CHICAGO MANUAL TRAINING SCHOOL.

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CONTENTS.

PREFACE.

It has been the aim to present as much of arithmetic in this book as is taught in the best schools during the second, third and fourth years.

It is presumed that pupils have had oral instruction in numbers from 1 to 10, inclusive, and that they can read in the Second Reader.

Oral exercises will be found on the left hand page and written on the right, with a few exceptions, which are indicated either by a head line or by the nature of the exercises. This arrangement, practically, affords two parallel courses in numbers for the above mentioned years.

It is believed that teachers will welcome a book that contains carefully graded and varied exercises in numbers for pupils of the second, third and fourth years, and that parents will appreciate a means that will diminish the task of copying from the board, which consumes the time of children only to induce bad habits of penmanship, and often at the risk of injury to sight.

General statements and formal rules are omitted; definitions have been placed in an appendix for those who may desire them.

SUGGESTIONS TO TEACHERS.

It is confidently believed that the following suggestions, if carried out in the spirit of the true teacher, will be helpful in making this book a means of better elementary instruction:

1. As far as possible, lead the child to discover the facts of numbers for himself.

2. Objects, as beans, nails, etc., are indispensable as a means of *inducing thought* in connection with numbers.

3. *First*, a clear conception of the facts of numbers; *then* repeated systematic drill to familiarize them.

4. "Make haste slowly." Children acquire *very slowly* ideas of numbers and processes.

5. A child takes delight in *doing* what he is able to *do well*.

6. Cultivate a *habit* of self-reliance and clear expression.

7. The child should read understandingly every question before he attempts to answer it.

8. Solutions of questions to be prepared on slate or paper, should be expressed briefly and by proper signs. Thus, question 1, page 10: 14 cents − 10 cents = 4 cents.

9. Insist upon *neatness*, ACCURACY, and *rapidity*.

10. Develop the numbers from 11 to 20, inclusive, after the method indicated in Lessons I and II. Continue the method of the multiplication table, as illustrated on page 97, by the first four sets of factors.

11. Much depends upon the eye to *see* results *promptly*, in order to secure rapidity. Besides those exercises in naming results at sight, given in the book, others should be written on the board.

12. Recur *frequently* to the drill exercises, using them only a few minutes at a time. Thoughtful repetition on different days is a great help to memory.

13. Children become interested in making their own problems. Let some abstract examples be assigned for the children to change to concrete problems; as, for instance, the numbers in example 1, page 47. The pupil may say, Charles has 26c., Henry has 44c., and Tom has 17c. How much money have they?

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FIRST PART.

LESSON I.

1. How many stars in the column?
2. How many stars are ten stars and one star?
   PUPIL. Ten stars and one star are eleven stars.
3. If I have eleven stars and take away one star, how many stars will be left?
4. Ten sticks and one stick are how many sticks?
5. Eleven pens less one pen are how many pens?
6. Ten pencils and how many pencils are eleven pencils?
7. I have ten cents, and mother gave me enough money to make eleven cents; how many cents did she give me?
8. Ten marks and how many marks make eleven marks?
9. Ten and how many are eleven?
   This number stands for eleven: 11.
10. 10 days and how many days are 11 days?

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1. How many pears and 8 pears are 11 pears?
2. 11 boys less how many boys are 6 boys?
3. How many marks and 9 marks are 11 marks?
4. How many more are 11 than 9? Than 5? 7?
5. How many less than 11 are 6? Are 4? 8? 10?
6. What is the difference between 11 and 3? 7 and 11? 11 and 1? 5 and 11? 11 and 10? 1 and 11?
7. How many are 2 and 5 and 4?
8. What other three numbers equal 11?
9. Of the number, 11, which 1 stands for ten?
10. What does the other 1 stand for?
11. $8 + 3 = 11$, is read 8 plus 3 equals 11, and means the sum of 8 and 3 is 11,
12. $11 - 5 = 6$, is read 11 less 5 equals 6, and means 11 less 5 is 6,

COPY AND COMPLETE.

1. $10 + 1 = ?$
2. $11 - 1 = ?$
3. $8 + ? = 11$
4. $6 + ? = 10$
5. $? + ? = 11$

6. $10   ? - 1$
7. $11   ? - ?$
8. $11 + 0   ?$
9. $2 + ?   11$
10. $9 + ? = 11$
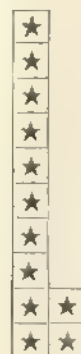
10 + 2   10 + 3   10 + 4   10 + 5
12.   13.   14.   15.

1. If we have one column of ten stars and two single stars, we say twelve stars.
2. How many chairs are ten chairs and 2 chairs?
3. I have two cents, and father gave enough to make 12; how many cents did he give me?
4. How many are ten stars and three stars?
5. How many and twelve equal thirteen?
6. 10 and how many are 13? 13 less 3 are how many?
7. Make 10 marks and 3 marks. How many marks have you?
8. How many are ten stars and four stars?
9. Make 13 marks and one more. How many marks have you?
10. Ten stars and how many stars are 15 stars?

1. Harry has 4 marbles in one pocket and 3 marbles in another. How many marbles has he in both pockets?
2. How many pens are 10 pens and 1 pen? 11 less 1?
3. Lucy has 9 blocks and Jane has 2 blocks. How many blocks have both? Who has an example for 9 and 3?
4. There are 12 books on the table. 3 are open; how many are not open?
5. A hat-tree has 11 hooks, and all the hooks have hats on them except 4. How many hats on the tree?
6. 8 hens and 4 ducks are how many fowls?
7. There are 12 pictures in two books. One book has 7 pictures; how many pictures in the other book?
8. John had 10 cents, and his mother gave him 3 cents more. How many cents did he have then? How many are 10 and 3?
9. There are 6 windows in one room and 7 windows in another room. How many windows in both rooms?
10. 9 forks and 4 knives are how many things?
11. Tom sold 11 papers, and his brother sold 2 more than he did. How many did his brother sell?

COPY NEATLY AND COMPLETE.

1. 10 stars and 1 star are................
2. 12 boys less 2 boys are................
3. 10 keys and 3 keys are................
4. 14 marks less 4 marks are................
5. 10 balls and 5 balls are................
6. 15 cents less five cents are................

7. $10 + 2 = ?$
8. $? + 10 = 14$
9. $10 + ? = 13$
10. $? + ? = 15$
11. $15 - 4 = ?$
12. $8 + ? = 13$
13. $9 + 5 = ?$
14. $12 - 8 = ?$
15. $? + 9 = 12$
16. $? + ? = 13$
17. $14 - 5 = ?$
18. $? - 7 = 7$
19. $6 + ? = 14$
20. $15 = ? + ?$

1. Arthur had 14 cents. He bought a copy-book for 10 cents. How many cents had he left?
2. James found 14 eggs. He broke half of them. How many did he not break?
3. There are 14 chairs on the floor, and 1 chair is on the platform. How many chairs in all? 14 and 1 are how many?
4. 15 cents less 10 cents are how many cents?
5. How many 5's in 10? In 15?
6. John has 7 marbles, Tom has 4 marbles, and James has 3 marbles. How many marbles do they all have?
7. Mr. Barr had 9 dollars, and he earned enough to make 14 dollars. How many dollars did he earn?
8. A baker had 15 loaves in his basket. He sold 8 loaves. How many had he left?
9. 13 birds sat on a fence. All but 5 flew away. How many flew away?
10. A lady has 14 fowls. Half of them are hens, and half of them are ducks. How many hens has she?
11. Mr. Crane has 13 fishes. 4 are shad, 3 are bass, and the rest are eels. How many eels has he?
12. 2 and 5 and how many are 11?

COPY AND FIND THE SUMS.

1.	2.	3.	4.
5 spools.	7 nails.	6 rakes	8 flags.
6 spools.	5 nails.	7 rakes	6 flags

5.	6.	7.	8.
4 corks	9 spades	5 beans	8 peas
5 corks	3 spades	8 beans	4 peas
3 corks	2 spades	2 beans	3 peas

COPY AND FIND THE DIFFERENCES.

1.	2.	3.	4.
13 boxes	15 cents.	14 cows	12 pigs
7 boxes	9 cents	8 cows	5 pigs.

5.	6.	7.	8.
11 buds.	14 dolls	13 pins	15 nuts
6 buds	9 dolls	4 pins	7 nuts.
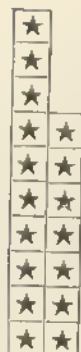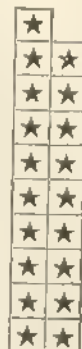
10 + 6   10 + 7   10 + 8   10 + 9   Two 10's
16.   17.   18.   19.   20.

1. How many stars are 10 stars and 6 stars?
2. 15 and 1 are how many? 16 less 1 equal what number?
3. 10 balls and 6 balls equal what? 16 less 6 equal what number?
4. Make 10 marks on the board. How many more must you make to have 16 marks?
5. If I have 16 stars and add 1 star to them how many will I then have? 10 and 7 equal what number?
6. Write, in figures, seventeen, sixteen, fifteen.
7. How many more are 17 stars than 15 stars? How many more are 17 than 13?
8. 17 stars and 1 star are how many stars?
9. How many are 10 stars and 9 stars?

1. There are 10 stars in one column, and 10 stars in another column. How many times 10 stars are there in the two columns?
2. Two tens are twenty.
3. Make 10, 21, 12, 13, 14, 15 on your slates.
4. Make 16, 17, 18, 19, 20 on your slates.
5. Which of the figures in 10 shows how many tens? Which that there are no ones or units?
6. Write the figures that stand for seven ones, three ones, nine units, five units, six units.
7. Write the figures that stand for one ten, two tens.
8. How many blocks are 15 blocks and 1 block?
9. How many desks are 15 desks and 2 desks? 17 less 2? 17 less 3?
10. How many cents are 15 cents and 3 cents? 18 less 2? 18 less 3?
11. How many tubs are 15 tubs and 4 tubs? 19 less 4? 19 less 3?
12. How many bolts are 15 bolts and 5 bolts? 20 less 5? 20 less 4?
13. How many fives in 10? How many twos in 10?
14. How many tens in 20? How many fives in 20?

1. 16 dolls and 4 dolls?	1. $13 + \ ? = 20$
2. 10 pens and 5 pens?	2. $? + 16 = 19$
3. 11 pins and 8 pins?	3. $20 - \ ? = 12$
4. 12 cats and 4 cats?	4. $? - \ 7 = \ 9$
5. 17 a's and 2 a's?	5. $18 = \ ? - \ 2$
6. 13 cars and 6 cars?	6. $16 = \ ? + \ ?$
7. 14 hens and 5 hens?	7. $? + \ 5 = 14$
8. 15 dots and 4 dots?	8. $8 + \ ? = 17$
9. 18 bugs and 2 bugs?	9. $10 = \ ? + \ ?$
10. 19 balls and 1 ball?	10. $? - \ 4 = 13$
11. 7 paws and 7 paws?	11. $19 - \ ? = 15$
12. 8 feet and 8 feet?	12. $3 + 12 = \ ?$
13. 9 dogs and 9 dogs?	13. $? + \ ? = \ 8$
14. 18 dolls less 5 dolls?	14. $7 + \ 2 + 4 = \ ?$
15. 19 pens less 4 pens?	15. $5 + \ 4 + ? = 12$
16. 16 pins less 6 pins?	16. $6 + \ ? + 3 = 11$
17. 15 cats less 3 cats?	17. $10 + \ 5 - 3 = \ ?$
18. 17 a's less 6 a's?	18. $15 - \ 5 + 7 = \ ?$
19. 20 cars less 9 cars?	19. $20 - \ 4 - 5 = \ ?$
20. 12 hens less 2 hens?	20. $8 + \ ? + ? = 15$
21. 14 dots less 5 dots?	21. $? + \ ? + ? = 20$
22. 13 dots less 7 dots?	22. $19 - \ ? - ? = \ 0$
23. 11 balls less 6 balls?	23. $0 + 17 - 3 = \ ?$
24. 15 cups less 8 cups?	24. Two 5's $+ \ ? = 13$
25. 18 feet less 8 feet?	25. Two 10s' $- 4 = ?$

COPY AND FIND THE SUMS.

1.	2.	3.	4.	5.	6.	7.	8.
3	2	6	4	9	7	5	8
2	5	8	6	9	3	4	7

9.	10.	11.	12.	13.	14.	15.	16.
5	2	8	4	9	6	3	7
6	9	3	7	1	8	6	4
4	8	7	6	9	5	8	3

COPY AND FIND THE DIFFERENCES.

17.	18.	19.	20.	21.	22.	23.
15	16	17	18	19	20	14
9	8	7	6	5	4	3

24.	25.	26.	27.	28.	29.	30.
20	19	18	17	16	15	14
6	9	7	9	5	7	8

ADDITION.

On this and the following page are given the forty-five primary combinations in addition and the inverse processes in subtraction. These should be written on the board in various ways and the pupils thoroughly drilled in them.

	a	b	c	d	e	f	g	h	i
	1	2	3	4	5	6	7	8	9
1.	1	1	1	1	1	1	1	1	1
	2	3	4	5	6	7	8	9	3
2.	2	2	2	2	2	2	2	2	3
	4	5	6	7	8	9	4	5	6
3.	3	3	3	3	3	3	4	4	4
	7	8	9	5	6	7	8	9	6
4.	4	4	4	5	5	5	5	5	6
	7	8	9	7	8	9	8	9	9
5.	6	6	6	7	7	7	8	8	9

These primary combinations may be written on the board as follows: 1+1=? 2−1=? 2+1 or 1+2=? 3−1 or 3−2=? etc. The digits may also be written in a column and the number to be added to each digit placed above or at the side of the column.

SUBTRACTION.

	a	b	c	d	e	f	g	h	i
	2	3	4	5	6	7	8	9	10
1.	1	1	1	1	1	1	1	1	1
	3	4	5	6	7	8	9	10	11
2.	2	2	2	2	2	2	2	2	2
	4	5	6	7	8	9	10	11	12
3.	3	3	3	3	3	3	3	3	3
	5	6	7	8	9	10	11	12	13
4.	4	4	4	4	4	4	4	4	4
	6	7	8	9	10	11	12	13	14
5.	5	5	5	5	5	5	5	5	5
	7	8	9	10	11	12	13	14	15
6.	6	6	6	6	6	6	6	6	6
	8	9	10	11	12	13	14	15	16
7.	7	7	7	7	7	7	7	7	7
	9	10	11	12	13	14	15	16	17
8.	8	8	8	8	8	8	8	8	8
	10	11	12	13	14	15	16	17	18
9.	9	9	9	9	9	9	9	9	9

1. Of a class of 12 pupils, 5 had poor lessons. How many had good lessons?

2. Six boots are how many pairs of boots?

3. I bought oranges for 5 dollars and lemons for 4 dollars. What did both cost?

4. Mrs. Todd ordered a barrel of flour at 6 dollars and a barrel of apples at 3 dollars. Find the cost of both.

5. If I have 10 cents and buy a two-cent stamp, how much money have I left?

6. I earned 15 cents. How many cents more make 20 cents?

7. How many cents are 15 cents less 8 cents?

8. Edna is 7 years old? In how many years will she be 16 years old?

9. Jane has 18 cents and May has 2 cents. How many cents have both? Jane has how many cents more than May?

10. My copy book has 20 pages. I have written 6 pages. How many pages have I not written?

11. Mother sent me to the store with 15 cents to buy a funnel worth 12 cents. How much change should I bring back?

12. If I have 14 cents and spend 8 cents, how many cents are left?

UNITED STATES MONEY.

10 mills (m.) = 1 cent (ct.)	1 dollar = 10 dimes
10 cents = 1 dime (d.)	1 dime = 10 cents
10 dimes = 1 dollar ($)	1 cent = 10 mills

NOTE.—Show the pupils the coins named, and tell them how they may be distinguished. Show them a few bank notes, and instruct them how to distinguish the different denominations.

This sign, $, is called the dollar sign; it stands for dollar, or dollars, and is placed before the figures. Thus, $1 is read one dollar; $3 is read three dollars.

1. A coat cost $13 and a vest $4. How many dollars did both cost?

2. Harry paid 15 cents for his marble and I paid 4 cents less for mine. How many cents did I pay for mine?

3. Ralph earned $8 and George $9. How many dollars did they both earn?

4. Jennie found 6 eggs and Eva found 7 more than Jennie. How many did Eva find?

5. James has a street car ticket for 11 rides. He has used 5 rides. How many more rides is it good for?

6. How many dollars are $5 and $9?

Two 10's Three 10's Four 10's   Five 10's
  20.   30.   40.   50.

1. Write the figures that stand for twenty.
2. Which of the figures in 20 stands for the number of tens?
3. How can the figure 3 be made to stand for 3 tens?
4. Write the figures that show 3 tens, 4 tens, 5 tens, 6 tens, 7 tens, 8 tens, 9 tens.
5. How many tens are 9 tens and 1 ten?
6. Ten 10's equal one hundred, and in figures one hundred is written 100.
7. Which of the figures in 100 shows the number of hundreds? Which shows that there are no tens? Which shows that there are no ones or units?

1. Write the figures that express 2 hundred, 3 hundred, 4 hundred, 5 hundred, 6 hundred, 7 hundred, 8 hundred, 9 hundred.
2. How many hundred are 9 hundred and 1 hundred?
3. 10 hundred equal one thousand, and in figures one thousand is written 1000.
4. If a figure stands in ten's place, that is, in the second place from the right, what does it show? What does it show if in the third place from the right?
5. In which place must a figure stand to show thousands?
6. Write 1 thousand, 2 thousand, 3 thousand, 4 thousand, 5 thousand, 6 thousand, 7 thousand, 8 thousand, 9 thousand.
7. When 2 stands alone how many units does it express?
8. What is written at the right of 2 to make it express twenty?
9. Express 2 tens and 1 unit, or twenty-one.
10. Write neatly, in a column, the numbers from 21 to 50.
11. Write the numbers from 51 to 100.
12. Write one hundred ten, one hundred twenty.
13. Write the numbers from 101 to 120.

1. 10 and 10 and 10 are how many? Three 10's equal what?
2. If you have 3 strings with 10 buttons on each string, how many buttons have you?
3. How many 10's can be taken from 40?
4. How many 10's in 60? in 70? in 80?
5. Four dimes are how many cents?
6. How many cents in a half dollar?
7. How many cents are 5 dimes? How many 10's in 50?
8. If a man works 10 hours a day, how many hours will he work in six days?
9. How many must be added to 32 to make the sum equal to 40? to 42? to 52? to 45?
10. How many more are 27 than 23? How many less are 23 than 27? In the same way compare:
11. 4 and 12,   6 and 15,   7 and 14,   9 and 17.
12. 12 and 18, 15 and 21, 17 and 26, 20 and 32.
13. 25 and 35, 29 and 37, 35 and 50, 40 and 55.
14. 43 and 57, 48 and 60, 56 and 59, 64 and 72.
15. 68 and 75, 73 and 80, 77 and 85, 79 and 88.
16. 81 and 88, 85 and 94, 86 and 95, 88 and 99.
17. 88 and 100, 90 and 96, 92 and 100, 94 and 100.

AT SIGHT NAME THE SUM, THEN THE DIFFERENCE.

25	32	47	51	63	78	84	96
8	9	7	2	6	5	3	4

1. Andrew had 23 cents and his father gave him 35 cents more. How many cents had he then?
2. A lady had $55; she spent $33 in the store. How much money had she left?
3. Helen paid 45 cents for muslin, 22 cents for ribbon and 10 cents for needles. How many cents did she spend for all?
4. In a field are 17 sheep, 20 cows, and 12 calves. How many animals in the field?
5. It is 17 miles from Chicago to Hinsdale and 20 miles from Hinsdale to Aurora. How many miles from Chicago to Aurora?
6. I spent $32 for groceries, $42 for dry goods, and $13 for fruits. How much did I spend in all?
7. There are 97 birds in two flocks; one flock contains 64. How many birds in the other?
8. Mr. Dunn bought a sleigh for $36 and sold it for $47. How many dollars did he gain?
9. I owe $88. If I pay $45, how much do I still owe?
10. Charles is 24 years younger than his father. How old will Charles be when his father is 69 years old?
11. How many are $42, $35 and $51?

1. Nellie is 16 years old. How old was she 7 years ago? How old will she be in 9 years?
2. Yesterday Henry found 17 eggs, and to-day 5 eggs less. How many eggs did he find to-day?
3. 51 gallons of oil were put into a barrel, but 11 gallons leaked out. How many gallons remained?
4. John had 65 cents, but he spent all but 5 cents. How many cents did he spend?
5. Arthur paid $14 for a coat and $11 less for a hat. How many dollars did he pay for the hat?
6. Peter had $100 and his father gave him $15. How much money did he then have?
7. There are 80 days of school in one term. If Louis stays out of school 7 days, how many days does he attend school that term?
8. Frank had 52 marbles and he bought a half a dozen more. How many marbles did he have then?
9. Fred has 68 cents in his bank and 6 cents in his pocket. How many cents has he?
10. I paid 35 cents for meat, 10 cents for a yard of muslin, and 6 cents for stamps. What was the amount I paid for all?

1. A boy selling papers made 23 cents on Monday, 10 cents on Tuesday, 21 cents on Wednesday, 12 cents on Thursday, 21 cents on Friday, and 32 cents on Saturday. How many cents did he make that week?
2. Bought a coat for $13, a vest for $4, pants for $10, and an overcoat for $32. What did the whole cost?
3. Five freight trains passed by; the first had 23 cars; the second, 31; the third, 45; the fourth, 60; the fifth, 70. How many cars in all?
4. What is the weight of 4 bags of wheat weighing 123 pounds, 120 pounds, 130 pounds, and 116 pounds?
5. The length of one block of houses is 220 yards; of another, 203; of a third, 225; of a fourth, 230; and of a fifth, 200. What is the entire length of these five blocks?
6. A boy earned 10 cents an hour for 6 hours' work, on Saturday. How many cents did he receive?
7. A butcher purchased two droves of sheep, one containing 446 sheep, and the other 223. How many sheep in both droves? How many sheep less in the smaller drove?

DRILL EXERCISES.

a. Add 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 separately, to each number given below, by columns and by lines. Notice the unit figure of the sums. Name results only: do not say 5 and 11 are 16, but say 16.

	a	b	c	d	e	f	g	h	i	j
1.	1	2	3	4	5	6	7	8	9	10
2.	11	12	13	14	15	16	17	18	19	20
3.	21	22	23	24	25	26	27	28	29	30
4.	31	32	33	34	35	36	37	38	39	40
5.	41	42	43	44	45	46	47	48	49	50
6.	51	52	53	54	55	56	57	58	59	60
7.	61	62	63	64	65	66	67	68	69	70
8.	71	72	73	74	75	76	77	78	79	80
9.	81	82	83	84	85	86	87	88	89	90
10.	91	92	93	94	95	96	97	98	99	100

b. Subtract 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 separately, from each number given above, by columns and by lines, except in line 1. Name results only.

READ THE SUMS AND DIFFERENCES AT SIGHT.

40	50	30	70	80	90	500	350	875
20	30	10	50	40	60	200	100	500

COPY AND FIND THE SUMS.

1 Mr. Horn bought

1 silk cap —————— —————— 90ᶜ·

1 pair of gloves—————— 65ᶜ·

2 handkerchiefs —————— 50ᶜ·

2. Harry Jones bought

2 Leghorn chickens—————— 60ᶜ·

1 setting of eggs—————— 75ᶜ·

1 white Leghorn rooster 80ᶜ·

3 Mrs. Lamb bought

2 pounds Rio coffee—————— 50ᶜ·

1 pound gunpowder tea 60ᶜ·

1 box baking powder 48ᶜ·

3 pounds of rice 20ᶜ·

When dollars and cents are expressed in figures, a period is placed between the dollars and cents. Thus five dollars and twenty-four cents is written $5.24; two dollars and seven cents is written $2.07.

1. Read the following:

$3.42 $4.15 $7.50 $10.75 $20.02 $50.80
 .42   .03   .40   5.00   10.01   .10

2. Name the sums and differences of the above numbers.

3. A man earned $8 on one job, $7 on another, and $5 on a third. How many dollars did he earn?

4. A butcher bought a cow for $30 and a calf for $4. What did he pay for both?

5. A farmer sold some butter for $24.50 and eggs for $2. How much money did he receive?

6. In a stable that has 35 stalls, there are cows in all the stalls except 8. How many cows in the stable?

7. I bought a pair of shoes for $3.25 and a hat for $3. How much money did I spend?

8. Mr. Helm bought a book-case for $58, and I bought one for $10 less. What did I pay for mine?

REVIEW—ORAL.

1. A fly has six legs. How many legs have 1 fly and 1 dog? 1 fly and 2 dogs?

2. My slate is 12 inches long and my reader is 5 inches less. How long is my reader? How long are both together?

3. 16 is the sum of what two equal numbers?

4. If 9 be taken from a certain number 7 remains. What is that number?

5. How much money is $5, $7, $2 and $10?

6. 35 is how many less than 44?

7. How many greater is 68 than 51?

8. $25 + $25 + $50 + $100 = ?

9. The sum of two numbers is 75. One of the numbers is 42. What is the other number?

10. In a car that has 64 seats there are 15 empty seats. How many people in the car?

LESSON XXVI.

REVIEW—WRITTEN.

1. Find the sum of 1 thousand forty, 3 hundred 3, 2 hundred thirty, and 6.

2. 121 cows + 45 cows + 1012 cows = ?

3. 95 men − 43 men + 1200 men = ?

4. Find the difference of $275 and $122.

5. $88 − $11 − $22 − $33 − $2 − $5 − $5 = ?

2	8
4	10
6	12

14	20
16	22
18	24

1. Two stars and two stars are how many stars?
2. How many 2's in 4?   What is $\frac{1}{2}$ of 4?
3. How many times 2 stars equal 6 stars?
4. How many 2's in 6?   How many 3's in 6?
5. How many are $\frac{1}{2}$ of 6 stars? $\frac{1}{3}$ of 6 stars?
6. How many 2's can be taken from 6? $6 \div 2 = ?$
7. 2 stars + 2 stars + 2 stars + 2 stars = ?
8. 4 times 2 stars are how many stars?
9. How many 2's can you take from 8? $8 \div 2 = ?$
10. What is $\frac{1}{2}$ of 8?   What is $\frac{1}{4}$ of 8?
11. What is $\frac{2}{4}$ of 8?   ($\frac{2}{4}$ equal two times $\frac{1}{4}$.)
12. What is $\frac{3}{4}$ of 8?
13. 5 times 2 stars equal how many stars?
14. How many 2's in 10?   2 times 5 equal what?
15. How many times can you take 2 stars from 10 stars?
16. How many 5's in 10? $10 \div 2 = ?$ $10 \div 5 = ?$
17. What is $\frac{1}{5}$ of 10 stars? $\frac{2}{5}$ of 10 stars?
18. 6 times 2 stars are how many stars?
19. How many 2's in 12? $12 \div 2 = ?$ $12 \div 6 = ?$
20. What is $\frac{1}{2}$ of 12? $\frac{1}{3}$ of 12? $\frac{1}{4}$ of 12?
21. 7 times 2 stars are how many stars?
22. How many 2's in 14? $14 \div 2 = ?$ $14 \div 7 = ?$

2×8 is read 2 multiplied by 8, or 8 times 2.
$16 \div 2$ is read 16 divided by 2, or 2 in 16.

1. How many are 8 times 2 stars? $2 \times 8 = ?$
2. How many 2's in 16?   How many 8's in 16?
3. What is $\frac{1}{2}$ of 14? $\frac{1}{2}$ of 16? $16 \div 2 = ?$
4. 9 times 2 stars are how many stars? $2 \times 9 = ?$
5. How many 2's in 18?   How many 9's in 18?
6. What is $\frac{1}{2}$ of 18 stars? $18 \div 2 = ?$
7. 10 rows of 2 stars each are how many stars?
8. How many 2's in 20? $2 \times 10 = ?$
9. How many 10's in 20? $20 \div 2 = ?$
10. 11 times 2 stars equal how many stars?
11. How many 2's in 22? $2 \times 11 = ?$
12. How many 11's in 22? $22 \div 2 = ?$
13. There are 12 rows of two stars each?   How many stars are there?
14. 24 is how many 2's? $2 \times 12 = ?$
15. How many 2's in 24? $24 \div 2 = ?$
16. What is the cost of 12 papers at 2 cents each?
17. 11 is $\frac{1}{2}$ of what number?   12 is $\frac{1}{2}$ of what number?
18. 12 things are a dozen.   How many cents will a dozen eggs cost at 2 cents each?
19. 15 equals how many 2's and how many remainder?
20. What part of 18 is 9?   of 24 is 12?

1. How many 2 cent stamps can I buy with 6 cents?
2. I lost a fourth of 8 dollars? How many dollars did I lose?
3. I gave $5 to James, which was $\frac{1}{2}$ of my money. How many dollars did I have at first?
4. There are 10 dimes in a dollar. How many dimes in $\frac{1}{2}$ of a dollar?
5. What is the cost of 7 apples worth 2 cents each?
6. What is the cost of 9 pens worth 2 cents each?
7. Mary is 20 years old, and Jane is one half as old. How old is Jane?

ORAL AND WRITTEN.

8.

	a	b	c	d	e	f	g	h	i
Multiply	2	2	2	2	2	2	2	2	2
by	4	2	5	7	3	9	6	8	1

9.

	a	b	c	d	e	f
Divide	2)4	2)8	2)6	2)16	2)20	2)12

NAME RESULTS RAPIDLY.

10. 4 dimes + 2 dimes = ?
11. 15c. + 2c. + 2c. = ?
12. 17 boys − 12 boys = ?
13. $200 + $20 + $2 = ?

14. 6 − 2 = ?
15. 19 − 4 = ?
16. 12 + 7 = ?
17. 20 − 8 = ?

ADDITION.

1.	2.	3.	4.
86 houses	72 cars	24 tugs	$50
51 houses	30 cars	50 tugs	75
72 houses	53 cars	74 tugs	91
90 houses	84 cars	80 tugs	72

SUBTRACTION.

5.	6.	7.	8.
58 knobs	89 corks	68 pans	$74
24 knobs	48 corks	15 pans	32

9.	10.	11.	12.
45 posts	39 rings	93 dots	$65
23 posts	17 rings	51 dots	40

FIND THE PRODUCTS.

13.	14.	15.	16.
42 birds	53 trees	72 bugs	$94
2	2	2	2

84

3

3   12   21   30
6   15   24   33
9   18   27   36

1. How many are 3 stars and 3 stars?
2. How many 3's in 6? $6 \div 3 = ?$
3. How many 2's in 6? $6 \div 2 = ?$
4. 3 stars + 3 stars + 3 stars equal what?
5. How many 3's in 9? $9 \div 3 = ?$
6. What is $\frac{1}{3}$ of 9? $\frac{2}{3}$ of 9?
7. How many are 4 times 3 stars?   4 times 3 = ?
8. How many 3's in 12? $12 \div 4 = ?$ $12 \div 3 = ?$
9. How many are $\frac{1}{3}$ of 12 and $\frac{1}{4}$ of 12?
10. How many are 5 times 3 stars?   5 times 3 = ?
11. How many 3's in 15? $15 \div 5 = ?$ $15 \div 3 = ?$
12. If there are 3 stars in a line, how many stars in 6 lines?
13. How many 3's in 18?   6 times 3 = ?
14. What is $\frac{1}{3}$ of 18? $18 \div 3 = ?$ $18 \div 6 = ?$
15. 7 times 3 stars are how many?   7 times 3 = ?
16. 21 equals how many 3's? $21 \div 3 = ?$
17. What is $\frac{1}{3}$ of 21? $21 \div 7 = ?$
18. How many are 8 times 3 stars?   8 times 3 = ?
19. How many 3's in 24? $24 \div 3 = ?$
20. What is $\frac{1}{3}$ of 24? $\frac{2}{3}$ of 24?

1. How many stars in 9 rows of 3 stars each?
2. How many 3's in 27? $3 \times 9 = ?$
3. What is $\frac{1}{3}$ of 27? $\frac{2}{3}$ of 27? $27 \div 3 = ?$
4. 10 times 3 stars are how many stars? $3 \times 10 = ?$
5. What is $\frac{1}{3}$ of 30? $\frac{2}{3}$ of 30? $\frac{3}{3}$ of 30?
6. How many are 11 times 3 stars? $3 \times 11 = ?$
7. How many 3's in 33? $33 \div 3 = ?$
8. What is $\frac{1}{3}$ of 33? $\frac{2}{3}$ of 33?
9. 12 times 3 stars are how many stars?
10. 36 is how many 3's?   36 is how many 12's?
11. What is $\frac{1}{3}$ of 36? $36 \div 3 = ?$

Multiply at sight

3	3	3	3	3	3	3	3
5	3	7	9	6	2	8	4

Divide at sight

3)21   3)12   3)24   3)30   3)36   3)33

Add upward, to the right, to the left, downward.

	a	b	c	d	e	f	g	h	i
j	3	3	2	2	3	3	2	2	3
k	3	2	3	2	2	3	3	5	2
l	1	2	1	3	3	2	1	3	1
m	2	1	3	2	1	1	4	1	4
n	5	5	2	1	4	3	2	3	2
o	3	3	3	3	3	2	3	2	3
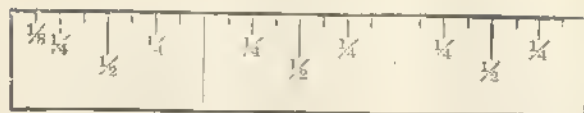
1 inch.   1 inch.   1 inch.

12 inches = 1 foot.	3 feet = 1 yard
1 foot = 12 inches.	1 yard = 3 feet.

1. How many inches in 2 feet? in 3 feet?
2. 9 feet equal how many yards?
3. What part of a yard is 1 foot?
4. If a yard of cloth cost 30 cents, what will 1 foot cost?
5. Three five-dollar bills equal how many dollars?
6. A pansy-blossom has five petals? How many petals have three pansy-blossoms?
7. Three horses have how many feet?
8. If 1 barrel holds 3 bushels, how many bushels of apples in 7 barrels?
9. At $9 a week, how many weeks will it take to earn $27?
10. James is 12 years old; his age is $\frac{1}{3}$ his father's age. How old is his father?
11. A spider has 8 legs. How many legs have 3 spiders?
12. A building has 3 stories of equal height. If the building is 33 feet high, how high is each story?

REVIEW—ORAL.

1. How many 2's in 18? 22? 16? 24? 14?
2. How many 3's in 12? 21? 18? 24? 27? 33? 15? 9? 36? 30? 10? 25?
3. What is $\frac{1}{2}$ of 20? 16? 12? 18? 24? 22?
4. What is $\frac{1}{3}$ of 12? 24? 27? 33? 36? 21?
5. What part of 12 is 2? of 18 is 6? of 27 is 3? of 33 is 11? of 24 is 3? of 21 is 3?
6. What is $\frac{1}{3}$ of 24? $\frac{2}{3}$? $\frac{3}{3}$? $\frac{1}{2}$? $\frac{2}{2}$?
7. The product of what two numbers is 4? is 9? is 15? is 24? is 27? is 21? is 18?
8. $2 \times 7 = ?$ $3 \times 8 = ?$ $2 \times 12 = ?$ $3 \times 9 = ?$ $3 \times 12 = ?$
9. $15 \div 3 = ?$ $21 \div 3 = ?$ $22 \div 2 = ?$ $18 \div 2 = ?$
10. Find the cost of 1 dozen papers at 3c. each.

LESSON XXXV.

REVIEW—WRITTEN.

1.	2.	3.	4.	5.	6.
243	313	234	431	232	322
2	3	2	3	2	3

7. What is the cost of 2 cows at $52 each?
8. How many feet in 412 yards?
9. Two rows of 432 trees each equal what?
10. Find the cost of 3 horses at $132 each.

4	16	★★★★★★★★★★	28	40
8	20	★★★★★★★★★★	32	44
12	24	★★★★★★★★★★	36	48

1. Count the stars in one column; in two columns.
2. How many 4's in 8?   2 times 4 equal what number?
3. Two 4's are how many? $8 \div 4 = ?$
4. Three columns contain what number of stars?
5. 3 wagons have how many wheels?
6. Twelve things are 1 dozen.   What is $\frac{1}{4}$ of a dozen?
7. 12 divided by 4 equals what number? $12 \div 3 = ?$
8. 4 stars + 4 stars + 4 stars + 4 stars = ?
9. How many times 4 marks are 16 marks?
10. Mr. Dow planted 16 hills of beans in 4 rows. How many hills did he plant in a row?
11. Make dots on the slate to show how Mr. Dow planted the beans.
12. There are 16 ounces in one pound. How many ounces in $\frac{1}{4}$ of a pound? in $\frac{2}{4}$ of a pound? in $\frac{3}{4}$ of a pound?
13. How many stars in 5 columns? $4 \times 5 = ?$
14. A wild rose has 5 petals. How many petals have 4 wild roses?

ORAL.

1. Edna planted 20 peach seeds in 5 hills. How many peach seeds did she put in one hill?
2. How many stars in 6 rows? $4 \times 6 = ?$
3. If it takes 4 yards to make a boy's coat, how many yards are needed to make 6 boys' coats?
4. Mary had 24 cents; she bought one yard of lawn for 6 cents. What part of her money did she spend?
5. 7 columns of stars are how many stars?
6. How many 4's in 28?   How many 7's in 28?
7. How many feet do 7 cats have?
8. If I earn $28 in 7 days, how many dollars do I earn in one day?
9. What is $\frac{1}{4}$ of 28 feet? $28 \div 4 = ?$
10. What number of stars in 8 columns? $4 \times 8 = ?$
11. I had 32 cents and spent $\frac{1}{4}$ of that sum for pears?   What did the pears cost?
12. A man paid $32 for 8 sheep. How many dollars apiece did he pay?
13. How many 4's in 32?   How many 8's in 32?
14. How many stars in 9 columns? $4 \times 9 = ?$
15. 9 chairs have how many legs?
16. 36 are how many 4's?
17. What is $\frac{1}{4}$ of 36? $36 \div 4 = ?$

1. How many stars in 10 columns? (See page 38.)
2. How many 4's in 40? How many are $\frac{1}{4}$ of 40?
3. 11 columns of stars are how many stars?
4. What will 4 pounds of ham cost at 11 cents a pound?
5. How many 4's in 44? $44 \div 4 = ?$
6. Paid 44 cents for 4 yards of muslin. What was the cost of one yard?
7. How many stars in 12 columns?
8. 12 cows have how many feet?
9. If I earn $4 in one week, in how many weeks can I earn $48?
10. How many 4's in 48? $48 \div 4 = ?$
11. There are 12 children in a group going to school; each child has 4 books. How many books have they?
12. 48 men are marching down the street in 4 ranks. How many men in each rank?

READ THE RESULTS AT SIGHT.

Products:

5	2	11	7	4	6	9	10	8	12	3
4	4	4	4	4	4	4	4	4	4	4

Quotients:

16	32	44	24	12	48	20	36	8	4
4	4	4	4	4	4	4	4	4	4

1. I sold 4 cows at $42 apiece. How much money did I get for them?
2. What is the cost of 4 pounds of butter at 22 cents a pound?
3. Mr. Tream sold 4 horses at $122 a head. How many dollars did he get for the horses?
4. What will 32 quarts of milk cost at 4 cents a quart? Find the cost at 3 cents a quart.
5. What will 421 oranges cost at 4 cents each?
6. Find the cost of 202 barrels of apples at $2 a barrel. Find the cost of the apples at $3 a barrel.

7. A gardener set out 4 rows of trees, putting 82 trees in a row. How many trees did he set out?
8. How many bushels of wheat in 324 bags, if each bag contains 2 bushels?
9. At $4 a yard what will 420 yards of cloth cost?
10. If a person pays $4 a week for board, how much does he pay for 1 year, that is, 52 weeks?
11. A mason receives $4 a day. How much will he receive for 321 days' work?
12. A party of 73 persons hired a boat, each paying $3 for the round trip. What was paid in all for the boat?

5	20
10	25
15	30

35	50
40	55
45	60

1. Count the stars in one column.
2. How many stars in two columns? $5 \times 2 = ?$
3. How many 5's in 10? $10 \div 5 = ?$
4. In 3 columns are how many stars? 3 times 5 = ?
5. What is $\frac{1}{5}$ of \$15? $\frac{2}{5}$ of 15 horses?
6. 5 stars + 5 stars + 5 stars + 5 stars = ?
7. How many 5's in 20? How many 4's in 20?
8. Mr. Dale had a score of pencils and lost $\frac{1}{5}$ of them. How many had he left?
9. How many stars in 5 columns? $5 \times 5 = ?$
10. How many pears at 5 cents apiece can I buy for 25 cents?
11. Place 25 dots neatly in five rows of 5 dots each. How many dots on each side of the group?
12. How many are 6 times 5 stars?
13. How many 5's in 30? 6 times 5 = ?
14. What is $\frac{1}{5}$ of 30? $\frac{2}{5}$ of 30? $\frac{3}{5}$ of 30?
15. 7 columns of stars equal how many stars?
16. Harold spent $\frac{1}{5}$ of 35 cents for a pencil. What did the pencil cost?

ORAL.

1. How many stars in 8 columns? $5 \times 8 = ?$
2. What is $\frac{1}{5}$ of 40? $\frac{3}{5}$ of 40 = ?
3. How many 5's in 40? How many 8's in 40?
4. 9 times 5 stars equal how many stars?
5. How many 5's in 45? $5 \times 9 = ?$
6. How many oranges at 5c. each can be bought for 45c.?
7. What is $\frac{1}{5}$ of 45? $45 \div 5 = ?$
8. 10 rows of 5 stars each equal how many stars?
9. What is $\frac{1}{5}$ of 50? $50 \div 5 = ?$
10. How many stars in 11 columns? $5 \times 11 = ?$
11. How many 5's in 55? $55 \div 5 = ?$
12. What is $\frac{1}{5}$ of 55? $\frac{2}{5}$ of 55? $\frac{3}{5}$ of 55?
13. 12 columns of 5 stars each are how many stars?
14. How many 5's in 60? $5 \times 12 = ?$
15. What is $\frac{1}{5}$ of 60? $\frac{2}{5}$ of 60? $60 \div 5 = ?$
16. How many 12's in 60? in 48?

Products at sight :

3	4	5	7	6	8	9	12	11	2	10
5	5	5	5	5	5	5	5	5	5	5

Quotients at sight :

20	30	10	50	35	25	40	15	45	60	55
5	5	5	5	5	5	5	5	5	5	5

1. 5 is what part of 25?   What is $\frac{2}{5}$ of 25?
2. If 25 peaches be divided equally among 5 boys, how many peaches will each boy receive?
3. Jane has 6 "nickels."   How many cents has she?
4. An orchard has 30 trees in 5 rows. How many trees in a row?
5. A bug has 6 legs. How many legs have 5 bugs?
6. 5 weeks are how many days?
7. If one pie be cut into 5 pieces, how many pies will be needed for 35 pieces?
8. Mr. Dunn is 40 years old. His son is $\frac{1}{5}$ as old. How old is his son?
9. There are 9 square feet in one square yard. How many square feet in 5 square yards?
10. With a yard stick draw four lines so as to form a ___ one yard on each side; divide this ___ square into nine equal squares by drawing four lines through it?
11. What is the cost of 9 yards of silk at $5 a yard?
12. One dime is what part of 50 cents?
13. If Easter cards cost 5 cents each, how many can be bought for 50 cents?
14. What is the cost of 11 rides at 5 cents a ride?

COPY NEATLY AND FIND THE SUMS.

1.	2.	3.
15 men	27 eggs	48 tubs
82 men	92 eggs	71 tubs
men	eggs	tubs

FIND THE PRODUCTS.

4.	5.	6.
432 guns	322 days	511 yards
2	4	5
guns	days	yards

FIND THE DIFFERENCES.

7.	8.	9.
406 gallons	631 acres	356 cars
203 gallons	410 acres	234 cars

10.	11.	12.
3)36 bushels	5)50 dollars	3)27 cents
bushels	dollars	cents

1. What is the cost of 8 coats worth $5 each?
2. How many books worth $3 each can I buy for $24.
3. I lost $4, which was one fourth of my money. How many dollars had I at first?
4. A hen had 12 chickens and lost $\frac{1}{4}$ of them. How many chickens did she lose?
5. Ada is 6 years old, and is $\frac{1}{5}$ as old as her mother. How old is her mother?
6. There are 25 cents in a quarter of a dollar. How many cents in three quarters of a dollar?
7. There are 24 hours in a day and night. If a boy sleeps one third of his time, how many hours does he sleep?
8. If a boy studies one fourth of his time, how many hours does he study?
9. What is the cost of 4 boxes worth 7 cents each?
10. If a wagon can carry 6 men, how many men can 5 such wagons carry?
11. How many pairs of skates may there be in 24 skates?
12. Each of 4 boys has 9 cents. How many cents have they all?
13. There are 12 spokes in each of 4 wheels. How many spokes in all of the wheels?
14. How many yards in 36 feet?

1.	2.	3.	4.	5.	6.
26	38	71	53	45	17
44	57	28	87	18	28
47	62	65	94	76	90

17 = sum of units.
10 = sum of tens.
117 = sum of units and tens.

7.	8.	9.	10.	11.	12.
42	83	49	93	73	58
58	17	80	56	81	71
36	25	27	84	29	97

LESSON XLVI.

REMARK.—Instead of writing the results, as in the above, add the tens to the column of tens as you proceed, and write the result, as shown in example 1.

1.	2.	3.	4.	5.	6.
187	296	143	256	281	233
228	183	351	242	354	199
177	247	239	187	398	325
592					

7.	8.	9.	10.	11.	12.
258	175	281	267	374	560
372	438	195	528	438	198
183	367	479	184	199	247

REVIEW—ORAL.

1. How many are 4×5? 4×7? 4×6? 5×3?
 5×5? 4×8? 4×11? 5×6? 5×9?
2. $5 \times 7 = ?$ $4 \times 9 = ?$ $5 \times 12 = ?$ $4 \times 12 = ?$
3. How many 5's in 30? 40? 45? 25? 55?
4. How many 4's in 16? 24? 32? 28? 36?
5. What is $\frac{1}{5}$ of 30? 40? 45? 60?
6. What is $\frac{1}{4}$ of 24? $\frac{2}{4}$? $\frac{3}{4}$? $\frac{4}{4}$?
7. What is $35 \div 5$? $40 \div 8$? $28 \div 4$? $48 \div 4$?
 $55 \div 11$? $24 \div 3$?
8. At $6 a cord, what will 5 cords of wood cost?
9. What is the cost of 1 dozen eggs if 5 dozen cost 60c.

LESSON XLVIII.

REVIEW—WRITTEN.

1. At $532 a lot, what is the cost of 3 lots?
2. A certain lot has 4 equal sides, each being 212 yards long. How far around the lot?
3. A drover bought 420 head of cattle for $3,807, 149 head for $1,090, and 330 head for $2,102. How many cattle did he buy? What did he pay for them?
4. $874 + $585 − $135 + $890 = ?
5. What is the cost of 5 houses at $3,100 each?

1. From 35 take 17.   Proof:

$35 = $ Minuend	$= 20 + 15$	$17 = $ Subtrahend.
$17 = $ Subtrahend	$= 10 + 7$	$18 = $ Remainder.
$18 = $ Remainder	$= 10 + 8$	$35 = $ Minuend.

REMARK.—As 7 units cannot be taken from 5 units, 1 of the 3 tens is placed with the 5 units, making 15 units. 7 units from 15 units leaves 8 units. 1 ten from the 2 remaining tens leaves 1 ten.

PROOF OF SUBTRACTION: *Subtrahend + Remainder = Minuend.*

2. From 45 take 28.   5. $94 less $35.
3. From 82 take 54.   6. $66 less $39.
4. From 75 take 46.   7. $85 less $36.

LESSON L.

FIND THE DIFFERENCES.

1.	*2.*	*3.*	*4.*	*5.*	*6.*
356	473	585	672	784	897
128	256	249	345	547	649
228					

7.		*8.*	*9.*	*10.*
$428 = 300 + 120 + 8$		435	549	657
$254 = 200 + 50 + 4$		182	365	473
$174 = 100 + 70 + 4$				

11. From $812 take $641. 12. $525 less $244.
13. From $648 take $355. 14. $438 less $152.

COPY AND COMPLETE THE FOLLOWING.

1. $15 \div 3 = ?$ $15 \div 2 =$ ...... and ...... remainder

2. $18 \div 3 = ?$ $17 \div 3 =$ ...... and ...... remainder

3. $15 \div 5 = ?$ $20 \div 3 =$ ...... and ...... remainder

4. $28 \div 4 = ?$ $23 \div 4 =$ ...... and ...... remainder

5. $35 \div 5 = ?$ $25 \div 4 =$ ...... and ...... remainder

6. $40 \div 4 = ?$ $28 \div 5 =$ ...... and ...... remainder

7. $50 \div 5 = ?$ $30 \div 4 =$ ...... and ...... remainder

8. $36 \div 4 = ?$ $32 \div 5 =$ ...... and ...... remainder

9. $21 \div 3 = ?$ $34 \div 5 =$ ...... and ...... remainder

10. $60 \div 5 = ?$ $21 \div 2 =$ ...... and ...... remainder

11. $45 \div 5 = ?$ $25 \div 2 =$ ...... and ...... remainder

12. $55 \div 5 = ?$ $28 \div 3 =$ ...... and ...... remainder

13. $30 \div 5 = ?$ $35 \div 4 =$ ...... and ...... remainder

14. $48 \div 4 = ?$ $38 \div 4 =$ ...... and ...... remainder

15. $50 \div 10 = ?$ $39 \div 5 =$ ...... and ...... remainder

16. $44 \div 4 = ?$ $41 \div 5 =$ ...... and ...... remainder

17. $32 \div 8 = ?$ $43 \div 4 =$ ...... and ...... remainder

18. $24 \div 6 = ?$ $47 \div 5 =$ ...... and ...... remainder

19. $21 \div 7 = ?$ $48 \div 5 =$ ...... and ...... remainder

20. $40 \div 8 = ?$ $51 \div 5 =$ ...... and ...... remainder

21. $60 \div 12 = ?$ $53 \div 5 =$ ...... and ...... remainder

22. $48 \div 12 = ?$ $57 \div 5 =$ ...... and ...... remainder

23. $36 \div 12 = ?$ $63 \div 5 =$ ...... and ...... remainder

24. $12 \div 3 = ?$ $54 \div 5 =$ ...... and ...... remainder

25. $27 \div 3 = ?$ $49 \div 4 =$ ...... and ...... remainder

1. A man borrowed $175; he paid $58. How much does he still owe?

2. A barrel of sugar that contained 326 pounds now contains only 132 pounds. How many pounds of sugar have been sold out of the barrel?

3. What is the weight of 4 barrels of oil, if there are 375 pounds in a barrel?

4. How many times can 156 be taken from 585? What remainder is there?

5. A gentleman sold a lot for $785, a load of hogs for $113, and a car load of cattle for $389. How many dollars did he receive for all?

LESSON LIII.

1. If a boy earns $13.88, and spends $5.55 for clothing, how much money will he have left?

2. Henry shot an arrow 97 feet from where he was standing. How many feet will he have to go to pick up his arrow and return?

3. A farmer sold a horse for $175, which was $38 more than the cost. What was the cost?

4. The silk and trimmings for a dress cost $46.50, and the making of the dress $18.25. Find the cost of the dress?

1. If I save 12 cents a day, how many cents ca[n] I save in 5 days?
2. If I pay 12 cents for a slate, how many cen[ts] do I pay for 4 such slates?
3. I had 32 yards of string, and lost a fourth [of] it. How many yards did I lose?
4. I sold a twelfth of my apples for 5 cents. Ho[w] many cents should I receive for all of them?
5. If I spend 12 cents a day, in how many day[s] will I spend 60 cents?
6. If I have 36 pears, to how many children ca[n] I give 4 pears each?
7. How much do I weigh if 12 pounds be a fourt[h] of my weight?
8. Mr. Snow has 12 sheep, which are one fifth o[f] the number of sheep that he sold. How many sheep did he sell?
9. How many inches in 4 feet? In $\frac{1}{4}$ of 4 feet?
10. If I divide 36 loaves of bread equally among 12 persons, how many loaves do I give t[o] each?
11. I bought 12 spools of thread for 60 cents. How much did I give a spool?
12 If I learn 12 lessons in one week, in how many weeks can I learn 24 lessons?
13. If I can write 12 lines in one lesson, how many lines can I write in 4 lessons?

1.	2.	3.	4.	5.
$3.25	$5.47	$15.42	$48.05	$712
5.09	3.85	23.40	65.41	247
7.07	1.15	32.75	51.90	486
4.72	6.35	44.66	83.06	185
$20.13				

6.	7.	8.
$876 – $523	$7.59 – $3.41	$45.67 – $12.35

9.	10.	11.
$476 – $124	$6.84 – $3.61	$86.43 – $54.12

LESSON LVI.

1. Add the four numbers in examples 6 and 9.
2. Add the four numbers in examples 7 and 10.
3. Add the four numbers of examples 8 and 11.
4. A farmer paid $75 for a wagon, and $120 for a horse. How much did he pay for both?
5. Mr. Ray bought a stove for $40, a carpet for $100, and a chair for $10. How much did he pay for all?
6. I paid Mr. Carr, $24.25; Mr. Deal, $13.11; and Mrs. Clark, $52.20. How much did I pay to all of them?
7. I paid $15.75 for a table, and $3.50 for a lamp. How much more did I pay for the table than for the lamp?

LESSON LVII.

COPY NEATLY AND FIND THE PRODUCTS.

1.	2.	3.	4.
36	58	54	92
2	3	4	5

6.	7.	8.	9.
46	68	73	85
3	4	5	2

11.	12.	13.	14.
123	456	789	912
4	5	5	4

16.	17.	18.	19.
364	476	389	573
3	5	4	2

21.	22.	23.	24.
2130	3205	2102	1453
3	3	3	3

LESSON LVIII.

SUBTRACT.

1.	2.	3.	4.	5.	6.
460	680	710	840	950	970
245	436	347	568	675	389
215					

7.	8.	9.	10.	11.	12.
508	609	304	805	706	907
250	428	172	562	375	544
258					

LESSON LIX.

SUBTRACT.

1.		2.	3.	4.
305 = 200 + 90 + 15		602	403	808
147 = 100 + 40 + 7		358	185	529
158 = 100 + 50 + 8				

5.		6.	7.	8.	9.
108 = 90 + 18		102	307	101	109
59 = 50 + 9		28	58	75	39
49 = 40 + 9					

10.	11.	12.	13.	14.	15.
407	202	907	704	809	606
208	105	409	306	509	407
199					

1. $\frac{1}{2}$ of 18 = ?　　11 is $\frac{1}{2}$ of what number?
2. $\frac{1}{3}$ of 24 = ?　　9 is $\frac{1}{3}$ of what number?
3. $\frac{1}{4}$ of 44 = ?　　8 is $\frac{1}{4}$ of what number?
4. $\frac{1}{5}$ of 45 = ?　　7 is $\frac{1}{5}$ of what number?
5. $\frac{1}{4}$ of 36 = ?　　12 is $\frac{1}{3}$ of what number?
6. $\frac{1}{2}$ of 24 = ?　　6 is $\frac{1}{5}$ of what number?
7. $\frac{1}{5}$ of 60 = ?　　10 is $\frac{1}{4}$ of what number?
8. $\frac{1}{3}$ of 33 = ?　　5 is $\frac{1}{4}$ of what number?
9. $\frac{1}{5}$ of 35 = ?　　11 is $\frac{1}{3}$ of what number?
10. $\frac{1}{4}$ of 48 = ?　　8 is $\frac{1}{5}$ of what number?
11. $\frac{1}{2}$ of 16 = ?　　7 is $\frac{1}{4}$ of what number?
12. $\frac{1}{5}$ of 55 = ?　　12 is $\frac{1}{5}$ of what number?

13. 4 is the product of what two equal numbers?
14. 9 is the product of what two equal numbers?
15. 16 is the product of what two equal numbers?
16. 25 is the product of what two equal numbers?
17. 18 is the sum of what two equal numbers?
18. How many 4's in 20? in 36? in 48? in 28?
19. How many 3's in 18? in 21? in 33? in 27?
20. How many 5's in 15? in 35? in 45? in 60?
21. How many 5's in 50? in 30? in 40? in 55?
22. How many 4's in 16? in 32? in 44? in 24?
23. 3×8 = ?　4×7 = ?　5×7 = ?　3×9 = ?
　　　4×6 = ?　5×11 = ?　4×12 = ?
24. $18 \div 6$ = ?　$36 \div 4$ = ?　$45 \div 5$ = ?　$27 \div 3$ = ?
　　　$60 \div 5$ = ?　$35 \div 7$ = ?　$30 \div 5$ = ?

1. Mr. Stone earned $75.50 in the winter, $84.60 in the spring, $94.75 in the summer, and $89.25 in the fall. How many dollars did he earn in the whole year?
2. A man bought a lot for $356; he put a fence around it at a cost of $108.50. What did the whole cost him?
3. A common year has 365 days. July 4th is the 185th day of the year. How many days in the year after the 4th of July?
4. 196 pounds of flour in a barrel. How many pounds of flour remain after a sack of 49 pounds has been sold out of a barrel?

LESSON LXII.

1. Mr. Hale has $15.25; he buys a pair of shoes for $3.50. How many dollars will he have left?
2. A family uses 31 quarts of milk a month. How much will their milk bill amount to in a month at 5c. a quart?
3. A monthly R. R. ticket costs $6.25. What is the cost of 3 such monthly tickets?
4. A sleigh is worth $85; a horse, $175; and a harness, $48. What is the value of the three?

12 things = 1 dozen (doz.)   1 dozen = 12 units.
12 dozen = 1 gross (gro.)   1 gross = 12 dozen.
20 things = 1 score (sc.)   1 score = 20 units.

1. If eggs are worth 2c. each, what is the cost of one dozen?
2. How many dozen in $\frac{1}{4}$ of a gross?
3. Two gross equal how many dozen?
4. 4 dozen oranges are how many oranges?
5. What is the difference between a dozen and a score?
6. If a man is two score years old, how old is he?
7. John's hens lay three eggs a day. In how many days will they lay one dozen eggs? Two dozen?
8. What is the cost of one gross of buttons at 5c. a dozen?
9. A lady sold 4 dozen eggs at 12 cents a dozen. How much money did she get for them?
10. What is the cost of 9 dozen clothes-pins at 4c. a dozen?
11. Find the value of 8 dozen plums at 5c. a dozen.
12. At 5c. a dozen, how many dozen hair pins can I buy for 20c.
13. How many dozen screws, at 3c. a dozen, can be bought for 27c.?

1.	*2.*	*3.*	*4.*	*5.*
$1.55	$45.76	$9.30	$75.45	$85.95
.08	3.72	12.10	25.71	57.38
4.50	21.31	17.68	20.04	19.99
83.69	7.75	88.33	68.37	6.43
15.65	32.87	9.77	25	37.75

FIND REMAINDERS.

6.	*7.*	*8.*	*9.*
$56.29	$54.54	$13.74	$99.99
5.25	24.54	7.53	90.90

10.	*11.*	*12.*	*13.*
$10.34	$45.32	$77.55	$321.76
7.25	22.50	65.95	140 35

FIND PRODUCTS.

14.	*15.*	*16.*	*17.*
$2 63	$16.24	$37.58	$56 17
2	3	4	5

Read rapidly the results only, downward and upward:

$\frac{1}{2}$ of	$\frac{1}{3}$ of	$\frac{1}{4}$ of	$\frac{2}{5}$ of	$\frac{2}{3}$ of	$\frac{4}{5}$ of
8	6	8	15	3	5
12	12	20	25	9	15
16	15	16	35	12	20
24	21	24	45	18	25
18	18	36	55	21	45
22	24	28	60	15	40
14	30	32	50	24	35
3	27	40	40	33	60
9	36	48	30	27	55
7	33	44	20	36	50
11	5	6	6		

$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{2}{5}$	$\frac{3}{4}$ of	$\frac{3}{5}$ of
15	7	9	8	4	5
13	8	10	14	8	15
17	10	11	18	12	30
23	13	14	23	16	25
25	16	15	33	28	40
21	23	23	39	24	35
19	25	25	42	36	50
40	29	29	54	48	45
50	31	33	57	44	60
80	34	38	48	32	55
100	35	34	37		
200	300	38	63	400	500

1. Find one half of 26.   Divisor, 2)26 Dividend.
13 Quotient.
2. What is $\frac{1}{2}$ of 28?   Of 46?   Of 68?   Of 66?   Of 84?   Of 64?   Of 88?   Of 80?
3. What is $\frac{1}{3}$ of 36?   Of 63?   Of 69?   Of 93?   Of 99?   Of 39?   Of 66?   Of 96?
4. What is $\frac{1}{4}$ of 24?   Of 44?   Of 48?   Of 84?   Of 88?

LESSON LXVII.

1. Divide 428 by 2.

2)428
214   Proof: Multiply the quotient 214 by the divisor 2. If correct, the product equals the dividend. $214 \times 2 = 428$.

2. Divide 246 by 2.   5. Divide 488 by 4.
3. Divide 336 by 3.   6. Divide 555 by 5.
4. Divide 966 by 3.   7. Divide 642 by 2.

LESSON LXVIII.

1. A farmer had 360 acres; he sold $\frac{1}{3}$ of it.   How much did he sell?   How much had he left?
2. I received $246, and bought a buggy with half of the money.   What did the buggy cost?
3. At $5 each, how many sheep will $505 buy?
4. What is $\frac{1}{4}$ of $884? $\frac{1}{5}$ of $500?

1. At 3 miles an hour, in what time can a man walk from Chicago to Evanston, a distance of 12 miles?

2. At $3 a yard, how many yards of cloth can I buy for $9.

3. A man earned $16 in 4 days. How much did he earn in one day?

4. At $5 a cord, how many cords of wood can be bought for $35?

5. At 5 cents a quart, how many quarts of milk can be bought for a half a dollar?

6. How many two-cent stamps can I buy for 25 cents?

7. How many pickets in one gate, if 5 gates of equal size require 30 pickets?

8. A farmer having 36 bushels of potatoes, planted ¼ of them. How many bushels did he plant?

9. If 44 cents be paid for 4 pounds of ham, what is the cost of a pound?

10. If one fur cap is worth $5, how many fur caps are worth $45?

11. How many 5-gallon cans may be filled from a barrel that contains 50 gallons?

12. If a family uses 5 pounds of butter a week, what time will 45 pounds last them?

13. Which is cheaper, 5 bars of soap for 25 cents, or 1 bar for 6 cents? How much?

1.	2.	3.	4.	5.
2)36 = 20 + 16	2)58	2)54	2)92	2)76
18 = 10 + 8				

6.	7.	8.	9.	10.	11.
3)48	3)87	3)51	3)75	3)84	3)87

12.	13.	14.	15.	16.	17.
4)56	4)60	4)76	4)92	4)96	4)72

LESSON LXXI.

1.	2.	3.	4	5.
5)45	5)65	5)75	5)85	5)95

6.	7.	8.	9.	10.
2)456	2)736	2)548	2)538	2)374
228				

11.	12.	13.	14.	15.
3)735	3)816	3)522	3)414	3)736

LESSON LXXII.

1.	2.	3.	4.	5.
4)516	4)628	4)732	4)752	4)976

6.	7.	8.	9.	10.
5)615	5)850	5)785	5)975	5)645

READ THE SUMS.

1.	2.	3.	4.	5.	6.	7.
10	20	30	40	50	11	22
20	20	30	40	50	11	22
20	10	20	30	40	11	22
10	50	10	20	30	11	22

8.	9.	10.	11.	12.	13.	14.
44	55	66	333	550	420	305
44	50	60	333	234	420	305

READ THE DIFFERENCES.

15.	16.	17.	18.	19.	20.	21.
555	666	888	999	777	450	500
222	444	333	666	555	6	7

22.	23.	24.	25.	26.	27.	28.
432	754	645	876	978	880	910
200	300	445	370	608	8	9

29. $17 + $6 + $10 = ?

30. 12 pt. + 5 pt. − 9 pt. = ?

31. 8 qts × 4 + 6 qts. = ?

32. 50 ft. + 10 ft. − 9 ft. = ?

33. 100c. + 40c. − 10c. = ?

34. $\frac{1}{2}$ of $40 = ?

35. $\frac{1}{4}$ of 44c. = ?

36. $\frac{1}{3}$ of 60 men = ?

37. $\frac{1}{4}$ of 80 feet = ?

38. $\frac{1}{5}$ of 100 gals. = ?

ADDITION.

1.	2.	3.	4.	5.
876	543	374	894	999
473	708	528	673	475
848	926	396	469	123
536	295	687	893	456
473	483	942	742	789

6.	7.	8.	9.	10.
890	786	837	345	987
543	938	912	678	987
219	495	346	964	476
787	854	789	321	674
679	693	694	768	345

LESSON LXXV.

SUBTRACTION.

1.	2.	3.	4.	5.
765	934	847	728	681
328	762	258	699	143

6.	7.	8.	9.	10.
542	473	875	1383	2590
285	194	549	290	846

11. $5432 − $247 − $376 − $834 − $564 = ?

1 pt. + 1 pt.   =   1 qt.
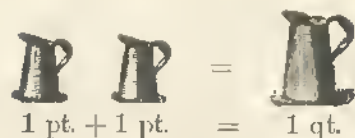
1. How many pints in 2 quarts? In 12 quarts?
2. How many quarts in 24 pints?
3. At 5 cents a pint, what will 2 quarts of coffee cost?
4. How much ice cream at 10 cents a pint can be bought for a half dollar?
5. $\frac{1}{4}$ of a pint is sometimes called a gill. What will 1 gill of alcohol cost if a pint of it is worth 28 cents?
6. If 2 tea-cupfuls equal 1 pint, how many gills in 1 tea-cup?
7. If I use 1 pint of cream a day, what will I pay for cream in one week at 5 cents a pint?

COPY NEATLY AND FIND THE PRODUCTS.

5 pints of molasses, at 10ᶜ a pint......

3 quarts of ice cream, at 8ᶜ a pint......

4 quarts of oil, at 7ᶜ a pint............

2 pints of wine, at 50ᶜ a pint............

REVIEW—ORAL.

1. If school is in session 5 hours a day, how many hours of school are there in 2 weeks?
2. What is the price of a dozen buttons at 4 cents apiece?
3. How many 5's in 28? In 32? In 43?
4. 6 dozen is what part of a gross?
5. James is 1 score years old, and his mother is twice as old. How old is she?
6. My coat costs $24, which is twice as much money as I have. How much have I?
7. My horse is worth $100, and my cow $45. What are both worth?
8. A box is 9 inches long and 7 inches wide. How long must a string be to reach around it?

LESSON LXXVIII.

REVIEW—WRITTEN.

1. $135 ÷ 3 + $529 − $78 = ?
2. Find one side of a square lot if the distance around it is 980 feet?
3. I paid $925 for wood, at $5 a cord. How many cords did I buy?
4. Sold 135 yards of carpet for $718, 156 yards for $142, 178 yards for $198. How many yards did I sell? What did I get for the whole?

1 qt. + 1 qt. + 1 qt. + 1 qt. = 1 gal.
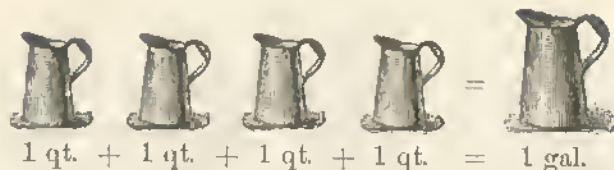
1. How many quarts in 1 gallon? In 12 gallons?
2. How many gallons in 4 quarts? In 12 quarts?
3. How many gallons in a 10-quart pail?
4. 18 pints equal how many quarts?
5. What is the cost of 1 quart of milk at 20c. a gallon?
6. How many pints in a gallon? In 2 gallons?
7. 1 pint is what part of a gallon?
8. How many quarts fill a 2-gallon jug?
9. There are 4 gills in 1 pint. How many gills in 2 pints? In 4 pints? In 7 pints?
10. How many quart tickets at 5c. each can be bought for a half dollar?
11. How many quart bottles can be filled from 20 pints? From 25 pints?
12. What is the cost of 1 gallon kerosene at 5c. a quart?
13. When vinegar is worth 20c. a gallon, how much can be bought for 5c.?
14. If cream is worth 10c. a pint, how many quarts can I buy for 40c.?

1. How many 2's in 482?
2. How many 2's in 264?   486?   434?   656?
3. How many 3's in 342?   609?   465?   741?
4. How many 4's in 456?   632?   700?   908?
5. How many 5's in 565?   675?   780?   800?

LESSON LXXXI.

1. What is $\frac{1}{2}$ of 1246?   2374?   3456?   4588?

REMARK.—To find $\frac{1}{2}$ of a number, divide the number by 2.

2. What is $\frac{1}{3}$ of 1326?   2367?   4548?   5610?
3. What is $\frac{1}{4}$ of 1704?   2572?   3876?   4056?
4. What is $\frac{1}{5}$ of 1800?   1885?   2505?   5675?

LESSON LXXXII.

1. How many times $2 are $234? $536? $1154?
2. How many times 3 ft. are 354 ft.?   4572 ft.?
3. How many times 4 pints are 728 pt.? 8964 pt.?
4. How many times 5 cents are 575c.?   6505c.?

LESSON LXXXIII.

1. How many pints in 543 qts.?   4256 qts.?
2. How many feet in 375 yds.?   1456 yds.?
3. How many quarts in 460 gal.?   1584 gal.?
4. How many nickels in 935c.   1468c.   1579c.?

COMPLETE AT SIGHT. REVIEW.

1. ( ) × ( ) = 1.
2. ( ) × ( ) = 2.
3. ( ) × ( ) = 3.
4. ( ) × ( ) = 4.
5. ( ) × ( ) = 5.
6. ( ) × ( ) = 6.
7. ( ) × ( ) = 7.
8. ( ) × ( ) = 8.
9. ( ) × ( ) = 9.
10. ( ) × ( ) = 10.
11. ( ) × ( ) = 12.
12. ( ) × ( ) = 13.
13. ( ) × ( ) = 14.
14. ( ) × ( ) = 15.
15. ( ) × ( ) = 16.
16. ( ) × ( ) = 18.
17. ( ) × ( ) = 20.

18. ( ) × ( ) = 21.
19. ( ) × ( ) = 22.
20. ( ) × ( ) = 24.
21. ( ) × ( ) = 25.
22. ( ) × ( ) = 27.
23. ( ) × ( ) = 28.
24. ( ) × ( ) = 30.
25. ( ) × ( ) = 32.
26. ( ) × ( ) = 33.
27. ( ) × ( ) = 35.
28. ( ) × ( ) = 36.
29. ( ) × ( ) = 40.
30. ( ) × ( ) = 44.
31. ( ) × ( ) = 45.
32. ( ) × ( ) = 48.
33. ( ) × ( ) = 50.
34. ( ) × ( ) = 55.

35. ( ) × ( ) = 60.

36. 2 is what part of 4? Of 8? Of 12? Of 10?
37. 3 is what part of 9? Of 12? Of 6? Of 15?
38. 4 is what part of 8? Of 16? Of 12? Of 20?
39. 5 is what part of 15? Of 10? Of 25? Of 20?
40. 6 is what part of 12? Of 18? Of 30? Of 24?
41. 7 is what part of 14? Of 28? Of 21? Of 35?
42. 8 is what part of 16? Of 32? Of 40? Of 24?

1.	2.	3.	4.	5.
526	954	345	327	534
637	348	789	436	754
246	734	176	547	636
857	653	265	369	557
639	768	376	879	657
582	919	859	588	599

6.	7.	8.	9.	10.
359	257	589	821	523
820	306	269	765	854
271	785	457	638	343
865	843	654	757	541
423	672	577	498	999
543	876	123	439	788
908	199	858	209	852

60 seconds = 1 minute.   7 days   = 1 week.
60 minutes = 1 hour.   52 weeks = 1 year.
24 hours   = 1 day.   12 months = 1 year.

1. How many days in 3 weeks?   In 4 weeks?
2. June has 30 days. How many days more than 4 weeks in the month of June?
3. Two years equal how many months?
4. How many months in $\frac{1}{2}$ year?   In $1\frac{1}{2}$ years?
5. $\frac{1}{5}$ of an hour equals how many minutes?
6. How many minutes in $\frac{1}{2}$ of an hour?
7. If it takes 5 seconds to write one line, how many lines can be written in 1 minute?
8. How many hours in $\frac{1}{4}$ of a day?
9. When the sun rises at 6 o'clock in the morning and sets at 6 o'clock in the evening, how many hours does the sun shine?
10. At 12 cents an hour, how many hours will it take to earn 48 cents?   To earn 60 cents? To earn 36 cents.
11. Harvey works on a farm for $5 and board and clothing a month.   How much money does he get in a year?
12. How many months in 4 years?
13. 35 days equal how many weeks?
14. How many school days in 11 weeks?

How many quarts in 648 pints? In 374 pts.?
A barrel of kerosene contained 208 qts.   How many gallons was that?
A common barrel contains $31\frac{1}{2}$ gallons.   How many quarts does it contain?

REMARK.—Add $\frac{1}{2} \times 4$ (or 4 halves = 2) to 31×4.

A cistern that will contain 152 barrels is $\frac{1}{4}$ full. How many barrels of water in the cistern?
How many minutes in 5 hours?

LESSON LXXXVIII.

How many weeks in 4 years?
There are 320 weeks of school in 8 years. James was in school only $\frac{1}{4}$ of the time. How many weeks was he in school?
Mr. Reed receives $1 for 5 hours' work.   How many dollars does he receive for 2580 hours' work?
A certain family uses 365 qts. of milk in 1 year. What does it cost that family for milk at 5c. a quart?

REMARK.—To change cents to dollars, put a period to the left of the two right hand figures and $ before the number; 1225c. = $12.25.

Multiply 257 by 4 and divide the result by 3.

1. $10 was paid for 3 sheep. What was the co
   of one?

   REMARK.—One sheep cost ⅓ of $10, which is $3⅓.

2. I bought 2 barrels of apples for $5. What d
   I pay a barrel?

3. Jane paid $5 for 4 books. What was the co
   of one book?

4. A tailor bought 5 yards of cloth for $12. Fi
   the cost a yard?

5. Four hogs were bought for $25. What w
   paid for each hog?

6. I paid 37c. for 4 pints of ice cream. Wh
   was the cost a pint?

7. A farmer bought 3 pairs of boots for $1
   How much a pair did he pay?

8. A mason earned $18 in 5 days. What we
   his daily wages?

9. I put 9 pints into 2 jugs. How many pin
   did each jug hold?

10. How many bunches of beets, at 4c. a bunc
    can be bought for 25c.?

11. Kate paid 33c. for 5 spools of silk. Wh
    was the cost of 1 spool?

12. At $3 a yard, how many yards of cloth can b
    bought for $22? For $29?

1.	*2.*	*3.*	*4.*	*5.*
2)157	2)131	2)115	2)173	2)199

78...1 Remainder.

Proof: $78 \times 2 + 1$ Remainder $= 157$.

6.	*7.*	*8.*	*9.*	*10.*
3)232	3)254	3)287	3)293	3)406

LESSON XCI.

1.	*2.*	*3.*	*4.*	*5.*
4)$3.03	4)$3.14	4)$5.46	4)$5.39	4)$6.17
$ .75...3		$1.36...2		

6.	*7.*	*8.*	*9.*	*10.*
5)326	5)418	5)443	5)644	5)783

LESSON XCII.

1.	*2.*	*3.*	*4.*	*5.*
2)1135	3)2020	4)3501	5)6317	2)3537

6.	*7.*	*8.*	*9.*	*10.*
4)7030	5)6212	2)5311	3)7970	4)9033

11.	*12.*	*13.*	*14.*	*15.*
2)5057	3)8345	4)7127	5)9633	2)9563

1. What is $\frac{1}{2}$ of \$20? $\frac{2}{2}$ of \$12? $\frac{1}{2}$ of \$16?
2. What is $\frac{1}{3}$ of 18c.? $\frac{2}{3}$ of 18c.? $\frac{2}{3}$ of 24c.?
3. What is $\frac{1}{4}$ of 28 eggs? $\frac{2}{4}$? $\frac{3}{4}$? $\frac{4}{4}$?
4. What is $\frac{1}{5}$ of 35 pints? $\frac{2}{5}$? $\frac{3}{5}$? $\frac{4}{5}$? $\frac{5}{5}$?
5. Of what number is three one third?   Is 4 one fourth?   Is 5 one fifth?   Is 9 one half? Is 6 one fifth?   Is 9 one fourth?   Is 7 one fifth?   Is 11 one third?   Is 12 one fifth? Is 12 one fourth?   Is 8 one fifth?   Is one half? Is 8 one third? Is 11 one fifth?
6. Of what number is 9 three thirds?   Is three fourths?   Is 20 four fifths?   Is one half?   Is 60 five fifths?   Is 36 three fourths?   Is 48 four fourths?   Is 40 four fifths?   Is 24 two thirds?   Is 21 three fourths?   Is 32 four fifths?   Is 16 four fifths?

COMPLETE AT SIGHT.

7. $2)\overline{}$ $2)\overline{}$ $3)\overline{}$ $2)\overline{}$ $4)\overline{}$
   6   4   9   8   12

8. $\frac{20}{5}$ $\frac{24}{6}$ $\frac{35}{7}$ $\frac{40}{5}$ $\frac{32}{8}$ $\frac{50}{10}$ $\frac{48}{12}$

9. $\frac{18}{} = 3$ $\frac{}{7} = 4$ $\frac{}{5} = 8$ $\frac{}{3} = 12$ $\frac{}{6} = $

10. $27 \div 9 = ?$ $50 \div 10 = ?$ $32 \div 8 = ?$

A farmer had 310 bushels of potatoes. If he should put them in barrels, each holding 3 bushels, how many barrels would he need?

365 days equal one year. How many days in $\frac{1}{4}$ of a year?

Find the cost of 1 lot, if 3 lots cost \$568.

The distance from Henry's home to the school-house and back is 2416 yards. How far does he live from the school-house?

A man has 555 acres in 3 farms of equal size. How many acres in each farm?

LESSON XCV.

Three men did a piece of work for \$786. How much did each man earn?

Two lots cost \$5424. What is the price of each?

A man bought a house and lot for \$7558. The house was considered worth as much as the lot. What was the value of the house?

Multiply 358 by 3 and divide the product by 5.

Find $\frac{1}{3}$ of 5 times \$496.

Find the sum of 4 thousand 3 hundred 5, 2 thousand 1 hundred 23, 7 hundred sixty and 49. Divide this sum by 5.

1. Multiply the following numbers by 2; by 3;
   by 4; by 5:

   7, 4, 10, 3, 5, 9, 1, 8, 0, 2, 6, 11, 12, 20, 5, 40,
   10, 50, 9, 8, 30, 100, 7, 12, 11.

2. $\frac{1}{2}$ of what equals 5 tulips? Equals 9 roses?
3. $\frac{1}{3}$ of what equals $7? Equals $11?
4. $\frac{1}{4}$ of what equals 6 pegs? Equals 8 cents?
5. $\frac{1}{5}$ of what equals 12 lilies? Equals 9 dolls?

6. What is the product of 8 and 5? 7 and 4?
   12 and 3? 5 and 9? 7 and 3? 2 and 9?
   4 and 11? 5 and 12? 10 and 4? 8 and 3?
   4 and 12? 6 and 3? 9 and 4? 3 and 9?
   4 and 5? 7 and 2? 12 × 2? 10 and 0?
   5 and 11? 7 and 4? 1 × 12?

7. Find the quotient of 15 and 5; 40 and 8; 24
   and 6; 35 and 7; 44 and 4; 60 and 5;
   30 and 10; 32 and 4; 27 and 9; 5 and 20;
   4 and 24; 7 and 28; 6 and 18; 3 and 15;
   2 and 14; 21 and 7; 11 and 33.

8. What is $\frac{1}{4}$ of 24? $\frac{2}{4}$ of 24? $\frac{3}{4}$ of 24? $\frac{1}{3}$ of 27?
   $\frac{2}{3}$ of 18? $\frac{2}{5}$ of 30? $\frac{4}{5}$ of 30? $\frac{1}{2}$ of 22?
   $\frac{1}{3}$ of 36? $\frac{1}{4}$ of 44? $\frac{2}{4}$ of 44? $\frac{1}{5}$ of 60? $\frac{3}{5}$ of
   60? $\frac{4}{5}$ of 40? $\frac{2}{3}$ of 27? $\frac{2}{4}$ of 36?

9. The product of what two numbers equals 27?
   32? 40? 21? 48? 55?

REVIEW—ORAL.

1. How many pints in 1 quart? 10 quarts?
2. 24 pints equal how many quarts? How many
   gallons?
3. How many dimes equal one dollar? $5?
4. $\frac{1}{5}$ of a minute equals how many seconds?
5. How many hours in $\frac{2}{3}$ of a day and night?
6. 35 days are how many weeks?
7. I bought 35 cents worth and gave the clerk a
   half dollar. What change should I receive?
8. How many pounds of white fish, at 8 cents a
   pound, can be bought for 40 cents?

LESSON XCVIII.

REVIEW—WRITTEN.

1. A farmer who has 498 acres divides his land
   into 3 equal farms. What is the size of
   each?
2. If one barrel of oranges is worth 3 barrels of
   apples, how many barrels of oranges are
   worth 465 barrels of apples?
3. 1234 is how many 3's? How many 5's?
4. 5 bushels of potatoes cost $3.50. What was
   the price per bushel?
5. How many pint bottles can be filled from 408
   quarts?

Find the amounts of the following:

lbs. = pounds, lb. = pound, @ = at.

1887.

Jan.	5	3 lbs. raisins, @ 13ᶜ a lb... ...
"	8	2 lbs. layer figs @ 24ᶜ a lb
"	8	5 lbs. currants, @ 12ᶜ a lb.
		Amount.... ....
Feb.	7	5 cans peaches, @ 18ᶜ a can
"	7	4 cans plums, @ 22ᶜ a can
"	7	3 cans figs, @ 38ᶜ a can... ...
"	7	4 cans cherries, @ 11ᶜ a can
"	7	5 cans apples, @ 23ᶜ a can
		Amount....
Mar.	12	28 barrels flour, " $5 a bbl
"	18	58 sacks flour, " $2 a sack
		Amount

FIND REMAINDERS BY ADDITION.

1.   27 and how many are 83?   83   Min.

REMARK: Instead of subtracting 7   27   Sub.
from 13, say 7 and how many are 13? $\overline{56}$ Rem.
Write 6 in the remainder and add 1 ten
(of the sum 13) to the next figure in the subtrahend. 1
and 2 are 3, and how many are 8? Write 5 as the other
figure of the remainder.

2.   Out of $2.50 take the sum of $2.50   Min.
85c. and 32c.

    .85 ⎫
        ⎬ Sub.
    .32 ⎭

REMARK: Instead of subtracting the
sum of 85 and 32, say 5 + 2 are 7, and $\overline{\$1.33}$ Rem.
how many are 10? Write 3 in the
remainder and add 1 (ten) to the next
column. 1 + 3 + 8 are 12, and how many equal 15?
Write 3 in the remainder. 1 (carried) and how many are
2? Write 1 in the remainder. $1.33 is the required
change.

Min.	$2.00	$3.50	$5.00	$5.00	$5.50
Sub. {	.45	1.25	2.60	3.75	4.25
{	.63	1.87	.86	.82	.69
Rem.	.92				

Min.	$8.75	$9.50	$12.00	$13.00	$15.00
Sub. {	5.25	4.25	5.35	5.50	8.45
{	2.95	4.73	4.86	7.75	5.91

1. What is the cost of 8 pounds of oatmeal at 5 cents a pound?
2. I owe one man $40, another man $15, and a third man $20. How much do I owe?
3. Mr. Dexter bought a cow for $55, and, after keeping her one year, sold her for $7 less than he paid for her. For how much did he sell her?
4. I paid 35c. for 7 pounds of rosin. Find the price of one pound?
5. John has 3 brothers and 4 sisters. He gave each 5 cents. How much did he give all?
6. Mr. Day buys 5 tons of hay to keep his cow one year. If he pays $11 a ton, what is the cost?
7. A man's wages are $5 a day. How much does he receive for two weeks' work, if he does not work on Sunday?
8. It takes one man 45 days to do a piece of work. In how many days can 5 men do the same work?
9. Find the cost of one cap if 5 caps cost $25.
10. A man bought 4 coats for $44. What was the price of one coat?
11. If one orange is worth as much as 4 apples, how many oranges can be had for 36 apples?

How many are 2 times 475 oxen? Prove.

Proof: Product ÷ Multiplier = Multiplicand; 950 ÷ 2 = 475.

How many are 2 times 648 plums?
How many are 3 times 846 acres?
How many are 4 times 789 cows?
How many are 5 times 896 men?

LESSON CIV.

$1247 \times 2 + 436 + 728 + 324 + 289 = ?$
$4343 \times 2 + 547 + 476 - 548 - 275 = ?$
$2389 \times 3 + 869 + 46 + 89 - 1560 = ?$
$876 \times 4 - 278 - 584 + 504 + 207 = ?$

LESSON CV.

$947 \times 5 - 95 - 281 - 9 + 1004 + 8 = ?$
$1546 \div 2 \times 5 + 5040 + 896 + 183 = ?$
$945 \div 3 \times 4 \times 5 - 2000 - 747 - 81 = ?$
$680 \div 5 \div 2 \times 4 + 763 - 1115 = ?$

LESSON CVI.

1. Divide $3546 into 2 equal parts.
2. Divide $5475 into 3 equal parts.
3. Divide $7500 into 4 equal parts.
4. Divide $9975 into 5 equal parts.

Grocer's Order Book, May 4, 1887

Mrs J. Smith, 15 Tremont St.

  2 lbs. Y. H. tea, @ 48"

  5 bu. potatoes, @ 65"

  3 doz. eggs, @ 23"

  4 lbs. dairy butter, @ 26"

     Amount

Mr A Davis 71 St. Paul St.

  5 lbs. raisins, @ 14"

  4 pails lard, @ 70"

  3 bu. apples, @ 75"

  2 pecks turnips, @ 35"

  5 gal. kerosene, @ 14"

     Amount

Find the result and prove it correct.

	2's in	3's in	4's in	5's in	3 times	4 times
1.	174	153	246	345	48	27
2.	645	189	284	700	96	39
3.	372	376	375	909	75	74
4.	555	829	896	376	43	58
5.	333	435	742	483	89	65
6.	744	787	693	971	27	96
7.	873	391	947	835	49	98
8.	999	554	876	776	56	146
9.	777	623	937	904	74	283
10.	1462	789	821	944	86	375
11.	1543	1211	1204	1260	125	486
12.	2331	1444	1543	2457	246	763
13.	4789	2568	2002	3333	783	551
14.	6647	2749	3030	4043	875	598
15.	5125	3235	4666	5678	780	765
16.	9374	4434	5545	8765	540	888
17.	7391	5651	6767	1234	983	999
18.	8756	8745	8543	4321	791	707
19.	5483	9764	3975	5043	686	660
20.	6790	4444	5778	8907	748	567
21.	3004	5566	6897	6078	893	789
22.	5070	6784	8785	8888	1241	909
23.	9900	8483	9471	7777	3047	1204
24.	7634	9634	9009	6666	1368	1376

TEST EXAMPLES—ORAL.

1. How many books cost $36, if one book costs $4?
2. One man can dig a ditch in 24 days. How many men can dig it in $\frac{1}{3}$ of the time?
3. What is the cost of a cow if $\frac{1}{4}$ of the price is $8?
4. 5 gallons of oil is $\frac{1}{5}$ the number of gallons in a barrel. How many in the barrel?
5. A pint of water weighs about 1 pound. How many pounds in a ten-quart pail full of water?
6. A girl with a 7-pound package in her arm weighs 62 pounds. What is the weight of the girl?
7. Arthur, Tom and James paid 27 cents for a melon, which they shared equally. How much ought each to pay?
8. How many horses can be shod with 36 horse-shoes?
9. If one yard of cloth costs $5, how many yards will cost $45?
10. If I have 18 cents and buy 2 pounds of sugar at 8 cents a pound, how much money have I left?
11. How many are 7×4? 3×8? 6×4? 9×2? 5×4? Five 12's? Four 8's? $36 \div 4$? $40 \div 5$? 5×12? Four 9's? Nine 5's?

TEST EXAMPLES—WRITTEN.

1. $546 + 678 + 9 + 37 + 291 + 746 = ?$
2. $\left.\begin{array}{r} 8573 - 2745 \\ 930 - 573 \end{array}\right\}$ Add.
3. 2198×4 equals two times what number?
4. $8465 \div 5$ equals $\frac{1}{5}$ of what number?
5. At $5 a pair, how many pairs of boots can be bought for $475?

LESSON CXXIII

1. There are 24 sheets of paper in a quire. How many sheets in 5 quires? How many sheets in three times as many quires?
2. In a ream of paper there are 480 sheets. How many sheets in 5 reams? How many sheets is $\frac{1}{2}$ of 5 reams?
3. A man went up a ladder that has 34 rounds. He came down after some tool, went up, and at noon came down. How many steps did he take upon the ladder?
4. A barrel of flour contains 196 lbs. If one pound is put into a loaf of bread, how many loaves can be made of 3 barrels of flour?
5. What is the value of the loaves at 5c. each?

TEST EXAMPLES—ORAL.

1. Five pieces of carpet of equal length contain 35 yards. What is the length of one piece? 7 yards is what part of the whole?
2. If 5 hogs cost $30, what part of $30 is the cost of one hog?
3. $36 is the price paid for 4 coats. The cost of one coat is what part of $36?
4. $45 are five fifths. How many dollars are one fifth?
5. Of what number is 12 one fourth?
6. Eight and what number equal 73?
7. The subtrahend is 15 and the remainder is 12. What is the minuend?
8. The product of two numbers is 55. One of them is 11. What is the other?
9. Make an example in subtraction and show how to prove the answer correct.
10. What is the price of one sheep, if I buy 7 for $21?
11. Eleven 3's and how many are 37?
12. 34 is how many less than five 8's?
13. A boy drives the cow twice a day to be milked. How many trips does he make in a week?
14. If a boy earns $7 a week, in what time can he earn $35?

1. How many days in the first six months of the year? Three of these months have 31 days each; two have 30 days each; the other has 28 days.
2. How many more days would there be in the first six months, if each month had 31 days?
3. How many days in the 12 months?
4. A steamboat made a trip of 825 miles in 3 days. How many miles did she run a day?
5. How many miles could the steamer make in 5 days?

LESSON CXXVI.

1. In how many days can 5 men do the work that one man can do in 835 days?
2. The sum of two numbers is 846, and one of the numbers is 368. What is the other?
3. What is the minuend, if the subtrahend is 753 and the remainder is 1269?
4. If it takes 5 bushels of wheat to yield a barrel of flour, which is 196 pounds, how many pounds of flour does one bushel yield?
5. The multiplicand is 945 and the multiplier is 4. What is the product?

1. The product is 3635 and the multiplier is 5. What is the multiplicand?
2. The quotient is 375 and the divisor 3. What is the dividend?
3. The divisor is 4, the quotient is 478, and the remainder is 3. What is the dividend?
4. I have 875 acres of land. I wish to divide it into 5 equal fields. How many acres will each field contain?
5. I have a tank that contains 104 gallons of oil. How many days will this oil last if I burn 1 quart a day?

LESSON CXXVIII.

1. If Jane makes 4 stitches in a minute, how many can she make in 1 hour?
2. Which number is nearer to 525; 17 or 940?
3. I have a coin, and on it is stamped 1799. How many years ago was it made?
4. The fare, at 3 cents a mile, from Chicago to Springfield, is $5.64. How many miles from Chicago to Springfield?
5. A book agent gained $2.35 on each book. He sold 4 books on a certain day. How much did he make on that day?

1. How long a string will it take to go around a house 36 feet long and 28 feet wide?
2. Find the sum of all the numbers between 298 and 304.
3. Mr. Dare sold 2 old stoves weighing 578 pounds. He received 3 cents a pound for them as old iron. How much money did he get for them?
4. A man bought 5 horses, paying $145 apiece for them. Two of them died. How many dollars did his loss amount to?
5. At 5 cents on $1, what will be the interest on $855?

LESSON CXXX.

1. I received cash during the day, $236.52, and paid out $171.25. How much have I on hand?
2. Mr. Warren sold, for $5115, a house and lot that cost him $4346. Find his gain or loss?
3. At 5 cents a pound, how many pounds of sugar in a barrel that cost $16.45?
4. Four persons paid $1456 for board and rooms a year. How much did each pay?
5. A clerk, selling cloth at $2 a yard, received $516 in one day. How many yards did he sell? How many yards had the price been $3 a yard?

1. If a man earn $3.35 a day, how much will he earn in 5 days?
2. A gardener has 2376 pounds of seed, which he puts up in 3-pound sacks. How many sacks can he fill?
3. How many feet long is a block of houses whose length is 225 yards?
4. A, B and C own 1876 acres of land. A owns ¼ of it. How many acres does he own?
5. How many acres do B and C own?

LESSON CXXXII.

1. If a man saves $3 a week, in how many weeks can he save enough money to pay for his house, on which he owes $2,400?
2. A man paid $875 for a lot, and 4 times as much money for a house. What was the cost of the house?
3. A man left $2347 to one son, $2568 to another son, $1995 to a third son, $1675 to his daughter Anne, and $1385 to his daughter Ella. He left to his wife ½ as much as to all the children. How much did he give to the children? How much did he leave to his wife?

1. How many years since the discovery of America in 1492?
2. What number must be subtracted from 5 times 947 to leave a remainder of 846?
3. In what time can a man earn $261 if he earns $3 a day?
4. If a number of chickens be fed 4 ears of corn a day, how many ears will last them one year, that is, 365 days?
5. $1888 \div 4 + 4768 + 57 - 666 = ?$

LESSON CXXXIV.

1. Here is a plan of the lower story of a small house. Make a drawing like it.
2. How many feet of picture molding will reach around each room? Around all the rooms?

3. How many widths of carpet, one yard wide, will cover the parlor floor?
4. How many yards in length of carpet, one yard wide, will cover the parlor floor?

1. Mount Everest, the highest mountain on the earth, is 29062 feet above the level of the ocean. The Dead Sea, the lowest level on the earth, is 1312 feet below the level of the ocean. How many feet is the highest point above the lowest?
2. A grocer bought 5 barrels of oil, each barrel containing 51 gallons. How many gallons did he buy? How many quarts?
3. Find the number of 4's in 756 and in 1348.
4. By what must 5 be multiplied to make a product equal to 1245?
5. $68 \times 5 \times 4 \times 3 \times 2 = ?$

LESSON CXXXVI.

1. Mr. Taylor paid $4,872 for his house and lot, which was three times what I paid for mine. What did mine cost?
2. Find the sum of the two products and one quotient:
$$742 \times 5 = ?$$
$$837 \times 2 = ?$$
$$1467 \div 3 = ?$$
3. New York is 960 miles from Chicago. How many miles does a man travel in going from one city to the other and back?
4. Add $\frac{1}{2}$ of $3740 to $\frac{1}{4}$ of $6548.

1. Find the entire weight of the boys in the class; of the girls in the class.
2. How many strips a yard wide will cover the floor of this school-room?
3. How many girls and boys would be in this room, if there were 5 times as many boys and 4 times as many girls?
4. How many pages in your reader? How many pages in a book that has three times as many pages?
5. How many pages in all your school books?

LESSON CXXXVIII.

1. How many desks in this school-room? How many feet have all those desks?
2. How many screws did it take to fasten them properly to the floor?
3. Find the number of panes of glass in this room. How many edges have all the panes?
4. If it required 4 "tins" for each edge to fasten the panes, how many "tins" were used?
5. Suppose the boys of this room wished to buy a foot-ball, and each should bring 5 cents. How much money would be raised?

Make problems according to the following
suggestions:

1. I go to the store with ...... cents, and buy ......
yards of calico at ...... cents a yard. How
much money will I have left?

2. James went to the market and bought ......
pounds of steak at ...... a pound. He gave
the .... cents. How much change
ought he to receive?

3. .... sells ...... quarts of milk a day at .
cents a quart. etc.

4. .... neighbor has ...... horses, which he says
are worth $............ each, etc.

LESSON CXL.

MAKING CHANGE.

1. I bought 3 pounds of oatmeal, at 6c. a pound,
and gave the grocer a half dollar to pay for
it. How does he count the change, and how
much does he give me?

> REMARK.—He will probably give me the oatmeal,
> counting it 18c. and placing in my hand 2c., 5c. and
> 25c., he would say: 20, 25, 50, thus giving me in
> change 32 cents.

2. Having only 1c., 5c. and 10c. pieces, make
change for 34c. out of $1, 58c. out of $1, etc.